growth actually attains the amounts previously ascertained by methods of calculation has been also established by weighing, in which connection one must always take into account the small losses, due to portions of metal remaining in the slag as well as the particles lost by splashes during casting.

In regard to the quality of the pig iron to be employed, it was at first believed that the smallest possible content of reducing agents in the same must give the best results. This view has proved erroneous, inasmuch as charges of white iron exhibit a very " dull " course, will not boil long, and therefore require ample time in the furnafce. Possibly, low silicon content of white iron is the cause, since it is conceivable that such an iron admits of the production of too small a quantity of slag, or an undesirable composition of the same in the earlier stages of the process, and is the cause hindering a rapid course of the " heat." A pig iron with 1 per cent, to 1*5 per cent. Si works best. Higher amounts thereof are undesirable owing to the large quantities of slag resulting; nevertheless they give rise to no special difficulties if they are only employed for a time, and if one adds to them correspondingly more ore and lime. Wear and tear of the basic bottom does not in general take place exactly as in the Talbot process, but the slag zone is here also subjected to wear and tear, which is the greater the more Si in the charge and the more SiOa present in the additions.

In order to determine the difficulties which were able to occur in working highly siliceous iron, in the year 1908, the following charge was worked, the tapping weight of which was chosen lower than usual:—

(See Table A.A. and Figs. 31 and 32.)

One sees that the furnace was also in the position to work this quite extraordinarily unfavourable charge, and, indeed, in spite of the defects which were created thereby. Since first lime had been deficient, which one sees throughout, for the slag showed a much too high silica content. It was obliged, therefore, to very strongly attack the furnace banks, at times its amount was abnormally large, which one can derive from the figures under the heading " Amount of slag" in the table below, which were ascertained in the known way.